Patent Claims

1. A method for identification of manipulation to an arrangement comprising a sensor (S) which emits pulses and a recording unit (RM), in which
- the sensor (S) transmits real-time pulses (RTS) from a measurement to the recording unit (RM),
- the recording unit (RM) cyclically transmits a first request instruction to the sensor (S),
in response to which the sensor (S) transmits a first data signal (DS), which contains information about intermediate real-time pulses (RTS) to the recording unit (RM),
- a real-time signal interface (RTI) which adds the real time pulses (RTS) to form a number of real time pulses (RTSN),
- a data signal evaluation module (DSE) in the recording unit (RM) determines the number of pulses based on the data signal (DS) to form a number of data signal pulses(DSN)
- the data signal evaluation module (DSE) transmits a second request instruction (2.0) to the real time signal interface (RTI), in response to which the real time signal interface (RTI) transmits the number of real time pulses (RTSN) to the data signal evaluation module (DSE),
- in which the first request instruction (1.0) and the second request instruction (2.0) follow one another offset by a specific time interval (Δt),
and
- the data signal evaluation module (DSE) compares the number of real time pulses (RTSN) and the number of data signal pulses(DSN) with one another.

2. The method as claimed in claim 1, characterized in that the data signal (DS) is transmitted cyclically from the

sensor (S) to the recording unit at regular time intervals.

3. The method as claimed in at least one of the preceding claims, characterized in that the sensor (S) interchanges data signals (DS) with the recording unit (RM) on the basis of a data transmission protocol (DSP).

4. The method as claimed in claim 3, characterized in that a transfer module (TM) is arranged between the data signal evaluation module (DSE) and the sensor (S), transforms the data signals (DS) from the data signal evaluation module (DSE) to a form that is matched to the data transmission protocol (DSP) and transforms received data signals (DS), which conform with the protocol, from the sensor (S) to the recording unit (RM) back for internal further processing in the recording unit (RM).

5. The method as claimed in at least one of the preceding claims, characterized in that the recording unit (RM) transmits the data signals (DS) to the sensor (S) in scrambled form, and the sensor (S) transmits the data signals (DS) to the recording unit (RM) in scrambled form, and one component of the recording unit (RM) is a transfer module (TM) which scrambles and descrambles data signals (DS) from the recording unit (RM) to the sensor (S), and from the sensor (S) to the recording unit (RM), respectively.

6. The method as claimed in at least one of the preceding claims, characterized in that the recording unit (RM) has a real time signal interface (RTI) which receives real time signals (RTS) from the sensor (S), and has a data signal interface (DSI) which interchanges data signals (DS) with the sensor (S).

7. The method as claimed in claim 6, characterized in that the real time signal interface (RTI) is connected for signal transmission purposes to a real time signal evaluation module (RTSE), the real time signal evaluation module (RTSE) evaluates the real time signals (RTS), and produces a second data signal (DS2) to the data signal evaluation module (DSE) from the results of this evaluation.

8. The method as claimed in claim 7, characterized in that the real time signal evaluation module (RTSE) interchanges data asynchronously with the data signal evaluation module (DSE) by means of a communication memory (KM).

9. The method as claimed in at least one of the preceding claims, characterized in that the time interval (Δt) is between 50 ms and 300 ms.

10. The method as claimed in at least one of the preceding claims, characterized in that the recording unit (RM) transmits a first request instruction (1.0) to the sensor (S) every minute.

11. The method as claimed in at least one of the preceding claims, characterized in that the recording unit (RM) enters a fault flag (FF) in the communication memory as a response to the cyclically transmitted first request instruction (1.0) in the absence of a data signal (DS).

12. The method as claimed in at least one of the preceding claims, characterized in that the recording unit (RM) enters a fault flag (FF) in the communication memory if there is any difference greater than a specific limit in the number of real time pulses (RTS) in the time-related comparison with the data signal (DS), and the data signal

(DS) is used as the basis for recording of the distance traveled.

13. The method as claimed in one of the preceding claims, characterized in that a fault flag (FF) is set and/or the distance traveled, which is determined from the data signal (DS), is used as the basis for recording, and/or the state is recorded in that the connection by means of the real time signal line (RTL) is faulty when the real time evaluation module (RTSE) does not transmit any signal (V) to the data signal evaluation module (DSE) and the real time signal evaluation module (RTSE) identifies the "stop" state, and the real time signal interface (RTI) produces an excessively low number of real time pulses (RTSN = 0) in comparison to the number of data signal pulses(DSN).

14. Method according to at least one of the preceding claims, characterized in that a fault flag (FF) is set and the distance traveled or the speed of travel as determined from the data signal (DS) is used as the basis for recording, when the real time signal evaluation module (RTSE) transmits a signal (V) to the data signal evaluation module (DSE) and the real time signal evaluation module (RTSE) identifies the "drive" state and the real time signal interface (RTI) produces an excessively low number of real time pulses (RTSN) in comparison to the number of data signal pulses(DSN).

15. The method as claimed in at least one of the preceding claims, characterized in that the fault flag (FF) is set when the data signal (DS) is absent for the purposes of the cyclic request instructions (1.0) and the state is recorded that the connection by means of the data line (DL) is faulty.